CLAIMS

1. Method of selecting among N "Spatial Video CODECs" where N is an integer number greater than 1, the optimum "Spatial Video CODEC" for a same input signal I, characterized by the following steps:

- obtaining from all the N "Spatial Video CODECs" for the same input signal I and a same quality parameter Q, the rate R and the distortion measures D, Q being an integer value between 0 and 100, defined by any rate-distortion algorithm to provide a compression of the input sequence with constant rate or with constant distortion,

- calculating an optimality criterion defined as the minimization of the value $L_n=f(R_n,D_n)$ calculated for all the n from 1 to N, n being the index of the "Spatial Video CODEC", where $f(R_n,D_n)$ is a function of R_n and D_n.

2. Method according to claim 1, characterized in that the said function is defined as $f(R_n,D_n) = R_n+\lambda D_n$, λ being the Lagrange multiplier that weights the relative influence of the rate R and of the distortion D.

3. Method according to claim 1 or 2, characterized in that the input signal I is a natural image or a predicted image or any rectangular sub-block from a minimum size of 2x2 of the natural image or of the predicted image.

4. Method according to one of the claims 1 to 3, characterized in that all the "Spatial Video CODECs" are aligned according to the MSE (Mean Square Error) and the quality parameter Q according to the following relationship:

$$MSE = \frac{f(Q)^2}{12}$$

5. Method according to one of the claims 1 to 4, characterized in that the Lagrange multiplier λ is defined as $\lambda = \frac{1}{2 \cdot \ln(2) \cdot MSE}$.

6. Method according to one of the claims 1 to 5, characterized in that the Spatial CODECs apply an uniform quantization with a step Δ defined as $\Delta = 2^{(C_1 - Q/C_2)}$ where C_1 controls the minimal and maximal quality and C_2 the variation of the distortion according to quality parameter Q and where all the "Spatial Video CODECs" are aligned according to $MSE = \frac{\Delta^2}{12} = \frac{\left(2^{(C_1 - Q/C_2)}\right)^2}{12}$.

7. Method according to one of the claims 1 to 6, characterized in that the rate R of the *n*-th "Spatial Video CODEC" is approximated by $R = \alpha \sum_{x_i=0}^{|x_i|<\Delta} N_{x_i}$ where N_{xi} is the number of coefficients with an amplitude equal to x_i and the parameter α is derived from experimental results.

8. Method according to one of the claims 1 to 7, characterized in that the distortion D of the *n*-th "Spatial Video CODEC" is approximated by $D = \sum_{x_i=0}^{|x_i|<\Delta} x_i^2 N_{x_i} + \frac{\Delta^2}{12} \sum_{|x_i| \geq \Delta} N_{x_i}$ where x_i is the amplitude of the coefficients and N_{xi} is the number of coefficient with an amplitude of x_i.